Second Preliminary Amendment, July 8, 2005

Amendments to the Claims:

Listing of Claims:

Claims 1-12 (canceled).

Claim 13 (currently amended): A process for the isolation

a) of the 3R,2'R stereoisomer of glycopyrronium bromide or iodide
(formula II: A = Br or I),

or

b) of the 3S,2'S stereoisomer (formula IV: A = Br or I),

or

c) of the 3R,2'S stereoisomer of the thienyl analog of glycopyrronium (formula VI: A = Br or I),

Second Preliminary Amendment, July 8, 2005

or

d) of the 3S,2'R stereoisomer (formula VIII: A = Br or I),

where

a) for the isolation of the 3R,2'R stereoisomer of glycopyrronium bromide or iodide (formula II: A = Br or I),

the diastereomer mixture consisting <u>essentially</u> of the 3R,2'R isomer and 3R,2'S isomer (formula III)

Second Preliminary Amendment, July 8, 2005

or the diastereomer mixture consisting <u>essentially</u> of the 3R,2'R isomer and 3S,2'R isomer (formula IIIb)

or

b) for the isolation of the 3S,2'S isomer (formula IV: A = Br or I),

the diastereomer mixture consisting <u>essentially</u> of the 3S,2'R isomer and 3S,2'S isomer (formula V)

Second Preliminary Amendment, July 8, 2005

or the diastereomer mixture consisting <u>essentially</u> of the 3R,2'S isomer and 3S,2'S isomer (formula Vb)

or

c) for the isolation of the 3R,2'S stereoisomer of the thienyl analog of glycopyrronium (formula VI: A = Br or I),

the diastereomer mixture consisting <u>essentially</u> of the 3R,2'S isomer and 3R,2'R isomer (formula VII)

Second Preliminary Amendment, July 8, 2005

or the diastereomer mixture consisting <u>essentially</u> of the 3R,2'S isomer and 3S,2'S isomer (formula VIIb)

or

d) for the isolation of the 3S,2'R isomer (formula VIII: A = Br or I),

the diastereomer mixture consisting <u>essentially</u> of the 3S,2'S isomer and 3S,2'R isomer (formula IX)

Second Preliminary Amendment, July 8, 2005

or the diastereomer mixture consisting <u>essentially</u> of the 3S,2'R isomer and 3R,2'R isomer (formula IXb)

$$A^{-} \stackrel{H}{\underset{C}{\overset{}}} O \stackrel{S}{\underset{C}{\overset{}}} O \stackrel{S}{\underset{C}{\overset{S}{\overset{S}}} O \stackrel{S}{\underset{C}{\overset{S}{\overset{S}}}} O \stackrel{S}{\underset{C}{\overset{S}}} O \stackrel{S}{\underset{C}{\overset{S}}} O \stackrel{S}{\underset{C}{\overset{S}}} O \stackrel{S}{\underset{C}{\overset{S}}} O \stackrel{S}{\underset{C}{\overset{S}{\overset{S}}} O \stackrel{S}{\underset{C}{\overset{S}}} O \stackrel{S}{\underset{C}} O$$

is used for the recrystallization and the stereoisomer to be isolated in each case is obtained in enriched form as a precipitate, a solvent enriching the stereoisomer to be isolated in each case in the precipitate being used,

and/or

those tertiary, basic diastereomer mixtures are employed in the quaternization which lead to the abovementioned quaternary diastereomer mixtures, and the stereoisomer to be isolated in each case is obtained in enriched form as a precipitate after the reaction, a solvent enriching the stereoisomer to be isolated in each case in the precipitate being used.

Claim 14 (currently amended): The process as claimed in claim 4 13, in which

solvent having a water content is used which leads to only the desired diastereomer being obtained in crystalline form, while the other diastereomer remains in solution or is obtained as an oil.

Claim 15 (currently amended): The process as claimed in claim 113, in which the solvent used in the quaternization to give said diastereomer mixtures of the quaternary salts a suitable solvent, such as, for example, isopropanol or acetone, is used and thus said stereoisomers are isolated in enriched form in the resulting precipitate.

Claim 16 (currently amended): The process as claimed in claim 1 13, in which a first solvent in which the diastereomer mixture dissolves readily is used for the recrystallization and a second solvent causing crystallization is added in order to bring about crystallization.

Claim 17 (currently amended): The process as claimed in claim 4–16, in which the first solvent is methanol and/or ethanol are/is preferably used for dissolving and the second solvent is crystallization is brought about using ethyl acetate and/or tert-butyl methyl ether.

Claim 18 (currently amended): The process as claimed in claim 1 13, in which for the recrystallization the diastereomer mixture is dissolved in a heated solvent and crystallization takes place by cooling.

Filed: June 20, 2005

Second Preliminary Amendment, July 8, 2005

Claim 19 (currently amended): The process as claimed in claim 6 18, in which the heated solvent is diastereomer mixture is dissolved at boiling heat in 2-propanol or ethanol and crystallization takes place on cooling to room temperature or below.

Claim 20 (currently amended): The process as claimed in claim 4 13 preferably for the enrichment of the 3R,2'R isomer of glycopyrronium bromide.

Claim 21 (currently amended): The process as claimed in claim 1 13 as a prepurification stage for obtaining a primary enrichment of diastereomers or, if enrichment has already taken place, to give a further increase in the diastereomer purity.

Claim 22 (currently amended): The process as claimed in claim 4 13, wherein solvents or solvent mixtures being used which preferably contain at least one solvent is selected from the group consisting of branched and unbranched alcohols having one to four carbon atoms _ a low molecular weight, such as methanol, ethanol, isopropanol, 1-propanol, tert-butanol, isobutanol, n-butanol, and also acetone, butanone or and acetonitrile.

Claim 23 (currently amended): The process as claimed in claim 4 13, a solvent being used in the quaternization having a water content not exceeding of preferably less than approximately 5%, even more preferably approximately 0.5-2%, most preferably approximately 1%, being used in the quaternization.

Claim 24 (currently amended): The process as claimed in claim 4 13, a solvent having a water content of preferably approximately 0.2-3%, more preferably approximately 0.5%, being used in the recrystallization.

Claim 25 (new). The process as claimed in claim 23, wherein the water content of the solvent is approximately 0.5 - 2%.

Claim 26 (new). The process as claimed in claim 23, wherein the water content of the solvent is approximately 1%.

Claim 27 (new). The process as claimed in claim 24, wherein the water content of the solvent is approximately 0.5%.

Claim 28 (new). The process as claimed in claim 22, wherein the solvent is methanol, ethanol, or 2-propanol.

Claim 29 (new). The process as claimed in claim 13, wherein the 3R,2'R stereoisomer of glycopyrronium bromide or iodide (formula II: A = Br or I),

Second Preliminary Amendment, July 8, 2005

is isolated.

Claim 30 (new). The process as claimed in claim 13, wherein the 3S,2'S stereoisomer (formula IV: A = Br or I),

is isolated.

Claim 31 (new). The process as claimed in claim 13, wherein the 3R,2'S stereoisomer of the thienyl analog of glycopyrronium (formula VI: A = Br or I),

is isolated.

Claim 32 (new). The process as claimed in claim 13, wherein the 3S,2'R stereoisomer (formula VIII: A = Br or I),

Appl. No.: 10/540,187 Filed: June 20, 2005 Second Preliminary Amendment, July 8, 2005

is isolated.